

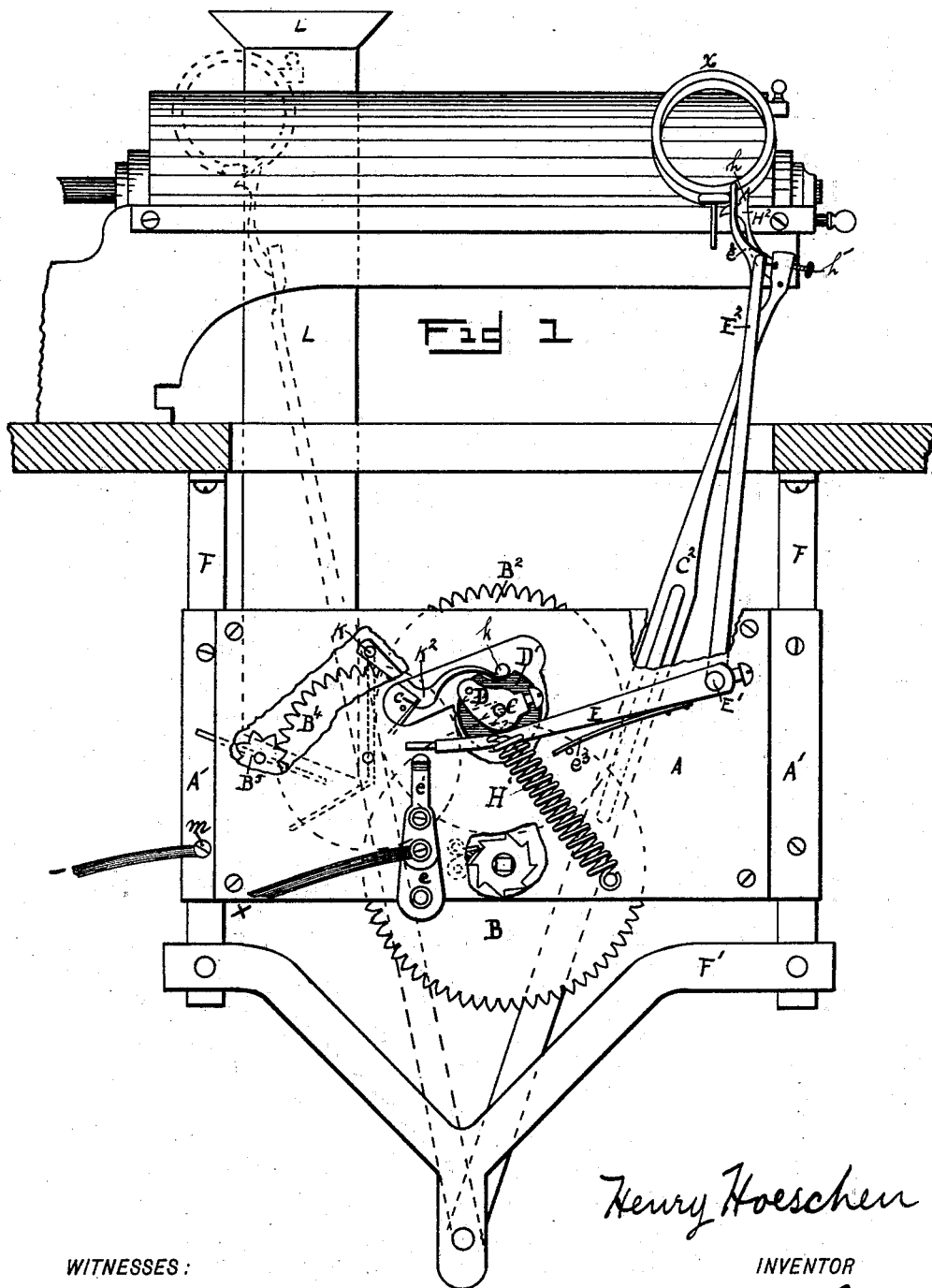
(No Model.)

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H. HOESCHEN.
PHONOGRAPH RETURN CARRIAGE.

No. 524,761.

Patented Aug. 21, 1894.



WITNESSES :

H. S. Mann.
E. Fay.

Henry Koeschen

INVENTOR

BY W. M. Sues
ATTORNEY.

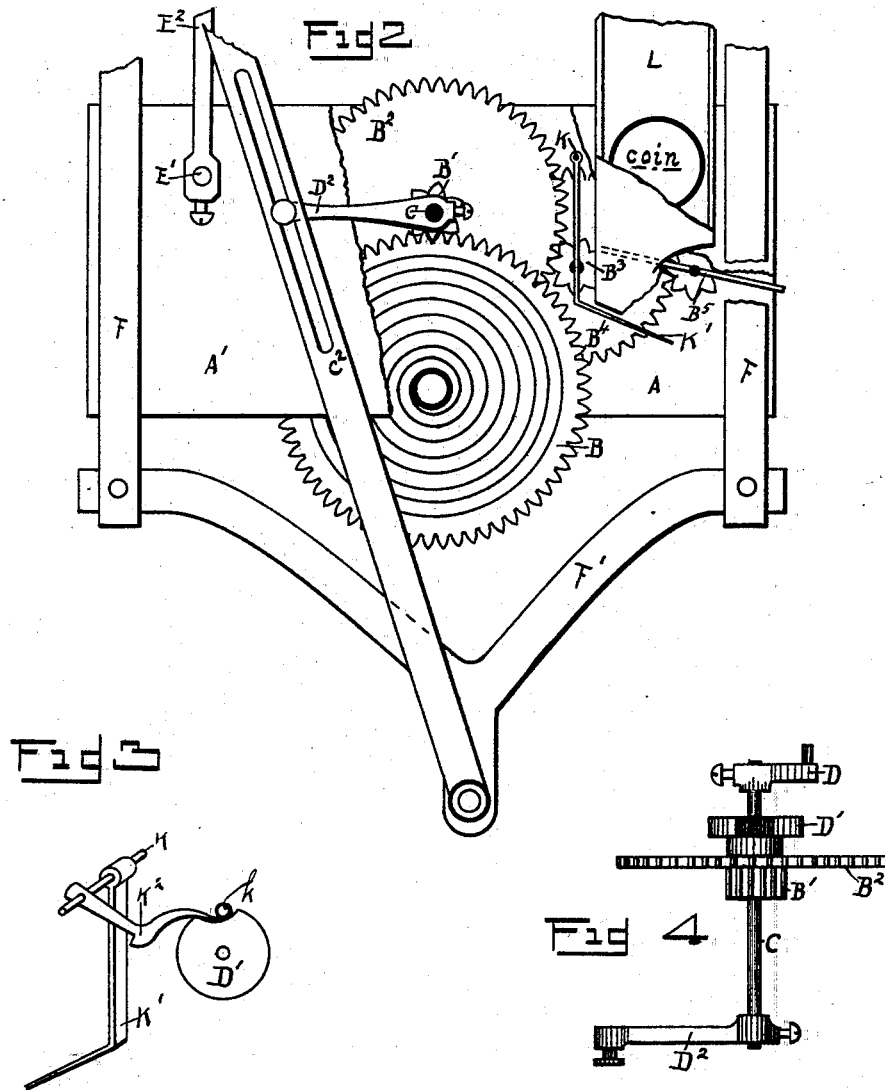
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UNITED STATES PATENT OFFICE.

HENRY HOESCHEN, OF OMAHA, NEBRASKA.

PHONOGRAPH RETURN-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 524,761, dated August 21, 1894.

Application filed February 17, 1892. Serial No. 421,820. (No model.)

To all whom it may concern:

Be it known that I, HENRY HOESCHEN, a citizen of the United States, and a resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain useful Improvements in Phonograph Return-Carriages; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to an automatic coin actuated return carriage for phonographs, adapted to operate independent of the phonograph mechanism.

The object of my invention is to provide a motor mechanism for phonographs, that shall be adjustable and operate automatically, and be adapted to return the diaphragm carriage to its normal position, at any suitable point or instant, and in furtherance of this object, the invention consists in the construction, combination and arrangement of parts, as hereinafter more fully described.

In the accompanying drawings, Figure 1 shows a front elevation, with parts broken away, of my improved coin-operated motor mechanism. Fig. 2 represents a rear view of the train of gearing; Fig. 3 a view of the coin lever and cam, and Fig. 4 detail of the main cam shaft.

A, A', represent the front and rear plates supporting a suitably timed train of clock work comprising the spring actuated main driving gear B and the connecting pinion B' and gear B², pinion B³, gear B⁴ and the fan governor B⁵.

The gear B is an ordinary spring actuated pawl and ratchet controlled gear, meshing with the pinion B', forming part of the gear B², both of which are mounted upon the centrally positioned cam shaft C. This main driving shaft shown in detail in Fig. 4, projects beyond the face on both sides and is provided in front with the cam D next with the mutilated disk D', intermediately with the gear B², and pinion B', and at its remaining projecting end at the rear, with an extending crank arm D², which works within an elongated slot within the carriage lever C², as illustrated in Fig. 2. Riding below and against the cam D is the spring actuated circuit lever

E, which is mounted upon a suitable shaft E' and provided with a stop arm E², which is held adjustably upon said shaft. The bar E is provided with a projecting nose, which is made to ride between the spring ends of the circuit plates e, e', when the lever is forced downward by means of the driving cam D. The plates e, e' are insulated from the plate A, by means of a block of rubber, and are connected to one of the poles of the battery connected to the phonograph motor. The operating arm E² projects upward, and is provided with a screw regulated tip e³, which is adapted to reciprocate in the path of the diaphragm carriage z, as shown in Fig. 1. Below the circuit lever E, is provided with the spring e³ to insure its riding against the cam D.

The gear B⁴, which is on the same shaft with the pinion B³ meshing with the gear B² is provided with a spring c, as shown in Fig. 1, which operates as a stop, in checking the operation of the motor. Meshing with this gear B⁴, is the fan governor B⁵, regulating the speed of the gearing.

The clock case A, A' is mounted below the phonograph, and is supported by means of the brackets F, F, provided with a transverse brace F', to the lower end of which is pivoted the carriage lever C², as illustrated. This lever is operated by means of the crank arm D² attached to the shaft C upon the rear side as stated.

In front, the face plate A is provided with a spring H', which is connected to said face plate by means of a pin and connected at its upper end to the cam D, and aids in operating the cam.

The carriage lever C², is provided at its upper end with an adjustable curved carrier H² provided with a stirrup h adapted to engage the projecting end of the diaphragm carriage z, and centrally with a slot, within which the pin of the crank D² is adapted to reciprocate, in operating the lever.

The carrier is pivoted within the bifurcated end of the carriage lever C², and being curved, and pivoted to one side of its medial line, is permitted certain radial motion. In the rear the carrier is provided with an adjustable stop screw h' which limits the movement of said carrier. The diaphragm actuated operating arm E², normally positioned, is adjoining the carriage lever C².

The device is brought into electric circuit

with the phonograph motor by having one of the poles secured to the screw *m*, in connection with its metallic clock casing and the other to the circuit plates *e*, *e'* as shown, the lever *E* breaking and closing the circuit.

Mounted upon an independent shaft *K*, is the coin lever *K'*, shown in Fig. 3, which is provided with the hooked stop arm *K*², ending in the curved nosing *k*, which nosing is adapted to ride upon the mutilated disk *D'*, while the hooked arm *K*² operates in the path of the spring *c* of the gear *B*⁴, as shown in Fig. 1. The coin lever *K'*, has a lower bent portion, which extends into the path of the coin chute *L*, as shown in Fig. 2.

When all the parts have been properly arranged and adjusted, the operation of my device is as follows: The clock work is set, previous to its initial movement, so that the stop *K*² rides against the spring *c*, and thus locks the train of gearing as illustrated in Fig. 1. The operator in order to start the phonograph, drops a nickel into the coin chute, which in descending, strikes the bent end of the coin lever *K'*, and this lever in turn carries the connected hooked stop *K*² out of the path of the spring stop *c*, permitting the escape of said spring, and thus starting the motor. At the first instant both the carriage lever *H* and the stop arm *E*², are carried forward, the first being operated by the crank *D*² and the latter by the connected circuit lever *E*, which lever is forced downward by the cam *D*, thus promptly closing the circuit, and starting the electric motor driving the phonograph cylinder. The lever *E* is securely impinged and held between the spring ends, of the circuit plates *e*, *e'*, while the cam *D* continues to revolve. As soon as the carriage lever *H* moves forward, the carrier *H*² engages the diaphragm carriage, and raising it upward speedily carries it to the forward and starting point, where the carriage will escape from the carrier, which with the carriage arm, will again be returned to its first position. By this time the mutilated portion of the disk *D'*, will have arrived at its position at starting, so that the nosing *k* of the stop arm will ride into the depression, and so permit the hooked stop arm *K*² to drop into the path of the spring *c*, and thus stopping the independent carriage motor. However the circuit has been closed by means of the lever *E*, and the electric motor is gradually threading the diaphragm carriage forward, until it comes into collision with the projecting stop arm *E*², and in carrying the arm backward, will force the circuit lever *E* upward and from between the circuit plates *e*, *e'*, and thus break the electric connection, and stop the movement of the motor. At this instant, the position of the return carriage will be in the position, as illustrated in Fig. 1. The device will again be started by dropping another nickel into the chute.

The movement of the carriage lever may be

nicely timed, so that it will make a long or short haul to either side of a vertical medial line passing through the center of the phonograph cylinder.

The movement of the diaphragm carriage beyond the medial line, is regulated by means of the adjustable stem of the operating arm *E*², while that before, by means of the adjustable carrier *H*².

Having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In a return carriage for phonographs, the combination with a suitably timed train of gearing in electric circuit with a phonograph, of a carriage lever operated by said gearing, and adapted to engage the diaphragm carriage of said phonograph, and a cam actuated circuit lever adapted to work against an insulated terminal, to close the circuit, all substantially as and for the purpose set forth.

2. In a return carriage for phonographs the combination with a suitably timed train of gearing in electrical circuit with a phonograph, of a carriage lever operated by said gearing, and adapted to engage the diaphragm carriage of said phonograph, a cam actuated circuit lever provided with a projecting stop arm, said circuit lever being operated by a cam in closing, and the diaphragm carriage in breaking the electric circuit, all substantially as and for the purpose set forth.

3. In a return carriage for phonographs, a suitably timed train of gearing in electric circuit with the phonograph, comprising a spring actuated main driving gear, a cranked cam shaft, provided with a gear and pinion and a mutilated disk, a meshing gear and pinion provided with a projecting stop, and a coin operated lever provided with a hook and nosing, the first adapted to engage the said projecting stop, and the nosing being adapted to ride upon said mutilated disk, to stop and start said train of gearing, all substantially as and for the purpose set forth.

4. In a return carriage for phonographs, the combination of the following instrumentalities, to wit: a clock casing provided with a main driving gear, a cam shaft having a gear and pinion meshing with said driving gear, and further provided with a cam, mutilated disk and a crank arm, a coin operated lever having a hook and nosing, the latter adapted to ride upon said mutilated disk, and a gear meshing with the gear of said cam shaft, and provided with a spring, adapted to be engaged by the hooked coin operated lever, to start and stop said train of gearing, all substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY HOESCHEN.

Witnesses:

HERBERT L. MANN,
G. W. SUES.